December 21, 2018

VIA EMAIL AND ELECTRONIC SUBMISSION

National Highway Traffic Safety Administration
Docket Management Facility, M-30
U.S. Department of Transportation
West Building, Ground Fl., Rm. W12-140
1200 New Jersey Avenue, SE
Washington, DC 20590
Docket No. NHTSA-2018-0067

Environmental Protection Agency
EPA Docket Center (EPA/DC)
Air and Radiation Docket, Mail Code 28221T
1200 Pennsylvania Avenue, NW
Washington, DC 20460
Docket No. EPA-HQ-OAR-2018-0283

Re: Comments on Proposed Rule, *The Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Years 2021–2026 Passenger Cars and Light Trucks*, 83 Fed. Reg. 42986 (August 24, 2018), Docket ID Nos. EPA-HQ-OAR-2018-0283, NHTSA-2018-0067, NHTSA-2018-0069

Environmental Defense Fund (EDF) respectfully submits the following comment on *The Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Years 2021–2026 Passenger Cars and Light Trucks*, 83 Fed. Reg. 42986 (August 24, 2018) (Proposed Rule). This comment addresses the Proposed Rule's failure to adequately describe the methodology for calculation of sulfur dioxide (SO_2) emissions from vehicles, and errors in the modeling of such emissions. As detailed below, these newly discovered errors underscore the agencies' abject failure to provide the information that the law requires to enable meaningful public comment. These errors also result in an arbitrary and capricious analysis of costs and benefits in the Proposed Rule and an erroneous portrayal of the harmful pollution impacts of the Proposal Rule in the accompanying Draft Environmental Impact Statement. If these errors were corrected, the net costs of the proposed roll back would be higher, and the increase in health-related early deaths from the roll back would be higher as well. The Proposed Rule must be withdrawn and a re-proposal issued that corrects these fundamental errors in the underlying analysis and accompanying Draft Environmental Impact Statement (DEIS), as well as addressing the numerous fatal errors identified elsewhere in our earlier comments.

The agencies must consider this comment. EPA requested a meeting with EDF to discuss the technical comments EDF filed on the Proposed Rule and during that

meeting, EDF alerted the agency that we identified this additional error.[1] In addition, as EDF detailed in earlier comments, NHTSA has repeatedly (and unlawfully) stymied public examination of the Volpe Model, obstructing our ability to review the model—such that we continue finding serious errors in NHTSA's analysis. NHTSA refused to release the latest version of the Volpe Model in advance of the comment period, despite EDF and other stakeholders' explicit requests that the agency do so consistent with their legal obligations to enable meaningful public comment and to facilitate proper review of the model.[2] When NHTSA finally released the model, the agency failed to release sufficient materials and explanatory information, hindering public review of the Volpe Model.[3] Finally, the agency denied extension requests from EDF and dozens of additional parties that underscored the time-consuming challenge of reviewing the Volpe Model, based on the unreasonable and entirely unsupported claim that automakers needed certainty (when automaker representatives themselves requested additional time to comment, also based on the challenge of unpacking the complex technical analysis in the Proposed Rule).[4] As a result of these NHTSA decisions, which unlawfully frustrated public review of the Proposed Rule, we uncovered this issue only after the close of the formal comment period. Given EPA's consideration of this error during the course of our recent meeting, NHTSA's obstruction of public review of the Volpe Model, and finally the seriousness of the error described below, the agencies must consider this comment as part of their rulemaking process.

The Proposed Rule's Treatment of SO_2 Underestimates How the Rollback Will Increase Emissions of this Harmful Pollutant

The Volpe Model used to assess the Proposed Rule incorrectly calculates tailpipe SO_2 emissions. If modeled correctly, SO_2 emissions should be proportional to fuel consumption. All of the sulfurous emissions from vehicles come from sulfur in the fuel. CO_2 standards generally have no effect on the sulfur content of gasoline in any point in

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[1] *See* Letter from Environmental Defense Fund to Assistant Administrator William Wehrum (December 7, 2018), Document ID No. EPA-HQ-OAR-2018-0283-7436, *available at* https://www.regulations.gov/document?D=EPA-HQ-OAR-2018-0283-7436.

[2] Letter of EDF, NRDC, Safe Climate Campaign, and UCS to Deputy Administrator King, March 20, 2018 (seeking the release of the most recent Volpe model and related materials as soon as practicable),; Letter of Deputy Administrator King to EDF, NRDC, Safe Climate Campaign, and UCS, April 2, 2018 (denying said request until proposal is issued); Letter of EDF, NRDC, Safe Climate Campaign, and UCS to Deputy Administrator King, May 7, 2018 (noting that the April 2 letter serves as a denial of the organizations' request), Docket ID No. NHTSA-2018-0067-5685, submitted to EPA docket, https://www.regulations.gov/document?D=NHTSA-2018-0067-5685 (see also Docket ID No. EPA-HQ-OAR-2015-0827-11456, https://www.regulations.gov/document?D=EPA-HQ-OAR-2015-0827-11456).

[3] *See, e.g.*, Comments of Environmental Defense Fund, Appendix B at 5, 7, 37, 40, 42, Document ID #: EPA-HQ-OAR-2018-0283-5775, *available at* https://www.regulations.gov/document?D=EPA-HQ-OAR-2018-0283-5775; Joint Comments of Center for Biological Diversity, Conservation Law Foundation, Environmental Defense Fund, Earthjustice, Environmental Law and Policy Center, Natural Resources Defense Council, Public Citizen, Inc., Sierra Club, and Union of Concerned Scientists ("Joint Comments"), Appendix A at 206-07, Document ID #: NHTSA-2018-0067-12000, *available at* https://www.regulations.gov/document?D=NHTSA-2018-0067-12000.

[4] Joint Comments, Appendix A at 207-08.

time (i.e., within a calendar year).[5] Accordingly, SO_2 emissions should vary across scenarios with different levels of fuel consumption.

However, in our examination of the Volpe Model, we discovered that the tailpipe SO_2 emissions by calendar year from the Volpe Model do not change proportionally to the changes in fuel consumption across various CO_2 control scenarios.

We confirmed that the Volpe Model incorrectly assumes that the emissions of SO_2 per mile are not affected by CO_2 control scenario by calculating the SO_2 emission factor in grams per mile in NHTSA's run of the Volpe Model of the current and alternative CO_2 standards.[6] The SO_2 emission factors under the current CO2 standards and under the proposed CO_2 standards are shown in Table 1, along with the ratios of the two factors.

Table 1: SO_2 Emission Factors Found in the NHTSA Analysis of Current and Proposed CO_2 Emissions Standards (g/mi from zero age vehicles)

Model Year	Current Standards	Proposed Standards	Ratio of Proposed Standards to Current Standards
2017	0.0022	0.0022	1.000
2018	0.0021	0.0021	1.000
2019	0.0021	0.0021	1.000
2020	0.0020	0.0020	1.001
2025	0.0016	0.0016	1.001
2030	0.0016	0.0016	0.999
2035	0.0016	0.0016	0.998
2040	0.0016	0.0016	0.998
2045	0.0016	0.0016	0.998
2050	0.0016	0.0016	0.998

As Table 1 shows, the SO_2 emission factors for both CO_2 control scenarios are nearly identical.[7] Thus, it is clear that the Volpe Model is incorrectly applying the same SO_2 emission factors for both the current and proposed CAFE and CO_2 scenarios.

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[5] While a small portion of fuel sulfur is emitted as fine particulate matter ($PM_{2.5}$), the majority is emitted as SO_2. Outside of plug-in and battery electric vehicles, no technology considered in the Volpe Model is expected to affect the ratio of SO_2 to sulfate emission. Moreover, NHTSA does not describe what portion of sulfur emissions are emitted as $PM_{2.5}$ (if any) in either its Volpe Model documentation, Proposed Regulatory Impact Analysis (PRIA), or Notice of Proposed Rulemaking (NPRM). Therefore, SO_2 emissions should be proportional to fuel consumption per mile.

[6] The relevant data were taken from the Annual _Societal_Effects_Report file for this run. Tailpipe SO_2 emission factors were calculated by dividing tailpipe SO_2 emissions by model year at age zero and CO_2 control scenario by total miles by model year at age zero and CO_2 control scenario and multiplying by 1000 to convert metric tons to grams and thousand miles to miles.

[7] We were unable to determine from the limited available information why the ratios are incrementally smaller for the proposed CO_2 standards starting around 2030. This difference could be due to NHTSA's presumed shift in sales from cars to light trucks under the proposal (which we have argued previously is unreasonable given the reduced compliance costs faced by trucks under the proposal). The emission factors shown in Table 1 are for cars and light trucks combined; cars have lower SO_2 emission factors as compared to trucks to reflect their respective fuel consumption per mile, such that an incremental shift in

We re-estimated the sulfur dioxide impacts, correcting for this error, over the 2017-2050 timeframe assuming 10% rebound and VMT neutral scrappage, as was done in the technical report supporting our comments to the proposal. Correcting SO_2 emissions under the proposal to reflect its higher fuel consumption would increase these emissions by 22,388 metric tons over the 2017-2050 period. Using the same methodology for SO_2 emission benefits described in the technical report submitted earlier,[8] this increase in SO_2 emissions would result in an additional 70-160 premature deaths due to increased ambient levels of fine PM over and above the 14,501-32,362 premature deaths that we projected would occur in our comments on the proposal. Similarly, correcting this error would increase the SO_2-related disbenefits of the proposal by $0.7-1.6 billion over the 2017-2050 timeframe.

Conclusion

This error is consistent with other errors and unreasonable assumptions made by NHTSA in this proposal in that again it results in an overstatement of the benefits of the proposal and an underestimate of its harmful costs. This error results in an arbitrary and capricious analysis of costs and benefits in the Proposed Rule (above and beyond the errors already identified in our earlier comments). It also results in an erroneous portrayal of the harmful pollution impacts of the Proposal Rule in the accompanying Draft Environmental Impact Statement (again, above and beyond errors already identified in our earlier comments on the DEIS[9]).

EDF respectfully reiterates our position in other comment submissions that the Proposed Rule and accompanying DEIS are fundamentally flawed and should be withdrawn. EPA and NHTSA must correct the errors in this rulemaking described above and in other comments. We appreciate your consideration of this comment.

Respectfully submitted,

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presumed car vs light truck sales would marginally shift the ratio of the proposed standards' emission factors as compared to the current standards.

[8] Comments of Environmental Defense Fund, Appendix B at 79-82, Document ID #: EPA-HQ-OAR-2018-0283-5775.

[9] Environmental Defense Fund comment on NHTSA's DEIS for the Proposed Rule, Document ID #: EPA-HQ-OAR-2018-0283-5764, *available at* https://www.regulations.gov/document?D=EPA-HQ-OAR-2018-0283-5764.